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| 60/514,983 | 29 October 2003 (29.10.2003) | US |
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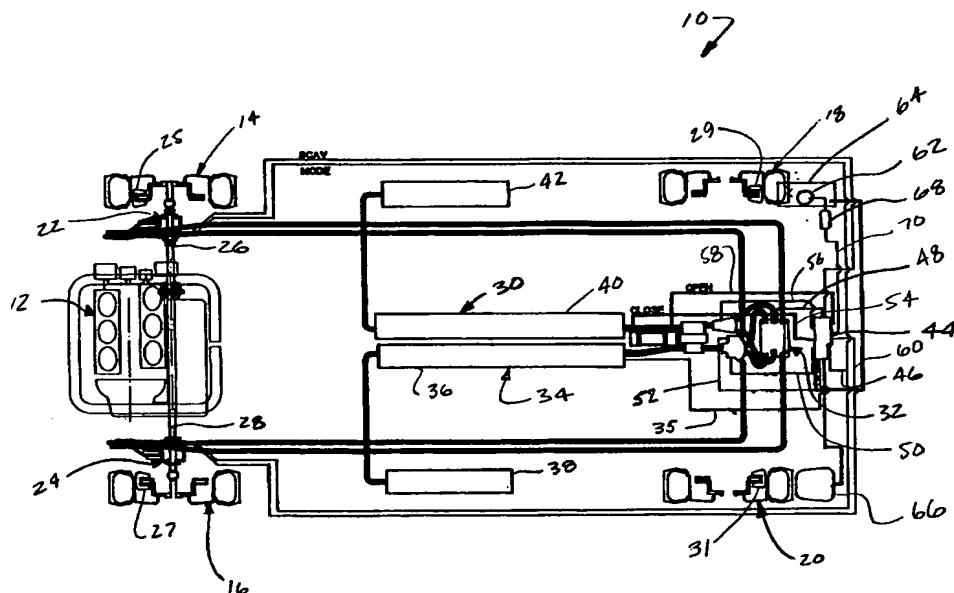
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48075 (US).

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SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: HYDRAULIC REGENERATIVE BRAKING SYSTEM FOR A VEHICLE



(57) Abstract: A hydraulic regenerative braking system for a vehicle is provided. The system includes two hydraulic machines, each of which is disposed proximate a corresponding vehicle wheel. A transformer is in communication with each of the hydraulic machines, and with a pair of accumulators. Each of the hydraulic machines is operable as a pump, pumping fluid to at least one of the accumulators when the vehicle is braking. Each of the hydraulic machines is also operable as a motor, receiving pressurized fluid and transferring torque to the vehicle wheels. The transformer is operable to vary the pressure of the fluid received by the hydraulic machines.



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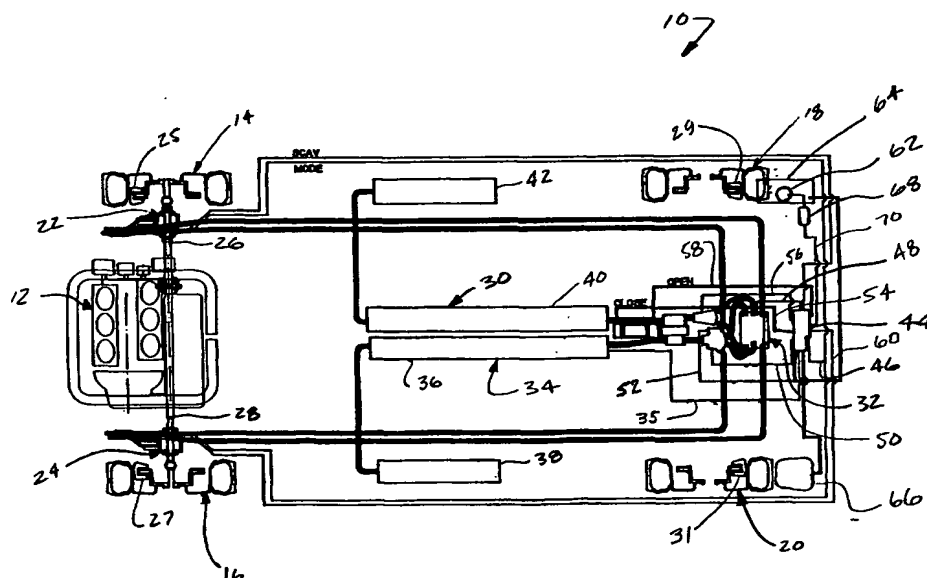
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INTERNATIONAL SEARCH REPORT

International application No.:

PCT/US03/40096

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B60T 8/64
US CL : 303/152,151

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 303/152,151

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 4,993,780 A (TANAKA et al) 19 Feb. 1991 (19.02.1991) figure 4 pump/motor 2, transformer 10, accumulators 11,12 | 1,20 |
| T | US 6,719,080 B1 (GRAY, JR.) | 1,20 |
| A | US 4,883,141 A (WALKER) 28 Nov. 1989 (28.11.1989) | |
| A | US 6,033,040 A (INAGAKI et al) | |

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

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"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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document member of the same patent family

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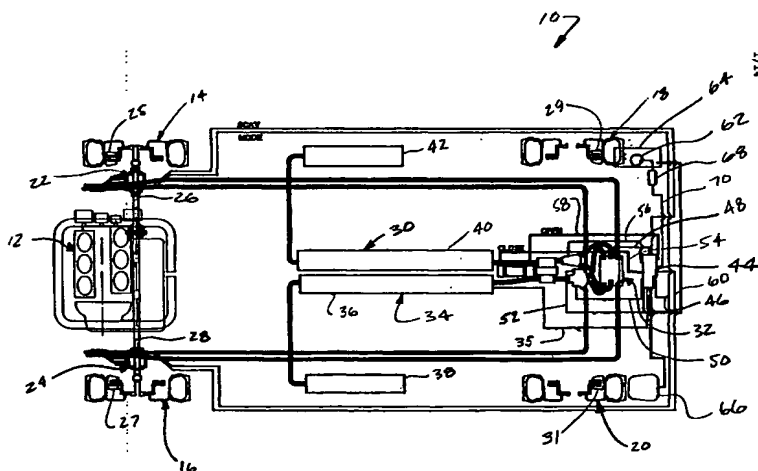
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